WHAT IS CLAIMED IS

1. A drive control apparatus for controlling a drive mechanism for driving a vehicle, comprising:

an abnormality detecting mechanism configured to detect an operational abnormality of said drive mechanism with an odd number of at least three independent detection systems;

a majority decision mechanism configured to decide if there is an abnormality in said drive mechanism by majority decision based on detection results of detection of an operational abnormality by said abnormality detecting mechanism by said odd number of detection systems, and

a drive stopping mechanism configured to stop a drive action of said drive mechanism when it is judged by said majority decision mechanism that there is an abnormality in said drive mechanism.

2. A drive control apparatus for controlling a first drive mechanism for driving a first wheel of a vehicle having a first wheel and second wheel configured to rotate about an axis orthogonal to a direction of progression and a second drive mechanism for driving said second wheel, comprising:

an abnormality detecting mechanism configured to detect operational abnormalities of said first drive mechanism and said second drive mechanism by an odd number of at least three independent detection systems,

a majority decision mechanism configured to detect abnormalities in said first drive mechanism and said second drive mechanism by majority decision based on detection results of detection of operational abnormalities by said abnormality detecting mechanism by said odd number of detection systems, and

a drive stopping mechanism configured to stop a drive action of at least one of said first drive mechanism and said second drive mechanism for which an abnormality is detected by said majority decision mechanism.

3.   A drive control apparatus as set forth in claim 2, wherein:

said first drive mechanism and said second drive mechanism generate a first drive signal for driving said first wheel and a second drive signal for driving said second wheel based on at least one of a state of said vehicle and a control instruction,

said drive control apparatus further has a third drive mechanism configured to generate a third drive signal for judgment of abnormalities corresponding to said first drive signal and said second drive signal based on at least one of the state of said vehicle and said control instruction, and

said abnormality detecting mechanism configured to detect operational abnormalities of said first drive mechanism and said second drive mechanism based on matching of said first drive signal, said second drive signal, and said third drive signal at each of said independent detection systems.

4.   A drive control apparatus as set forth in claim 3, wherein:

said first drive mechanism and said second drive mechanism generate said first drive signal and said second drive signal so that a designated difference corresponding to a rotational speed of said vehicle arises in drive forces given to said first wheel and said second wheel, and

said abnormality detecting mechanism being configured to detect operational abnormalities in said first drive mechanism and said second drive mechanism based on coincidence and noncoincidence between said first drive signal and said second drive signal minus effects due to said difference and said third drive signal.

5.   A drive control apparatus as set forth in claim 1, further having an alarm outputting mechanism configured to output an alarm when an abnormality is detected by said majority decision mechanism.

6.   A two-wheeled vehicle comprising:

a first wheel and a second wheel configured to rotate about shafts orthogonal to a direction of progression,

a first drive mechanism configured to drive said first wheel,

a second drive mechanism configured to drive said second wheel,

an abnormality detecting mechanism configured to detect operational abnormalities of said first drive mechanism and said second drive mechanism by an odd number of at least three independent detection systems,

a majority decision mechanism configured to detect abnormalities in said first drive mechanism and said second drive mechanism by majority decision based on detection results of detection of operational abnormalities by said abnormality detecting mechanism by said odd number of independent detection systems, and

a drive stopping mechanism configured to stop a drive action of at least one of said first drive mechanism and said second drive mechanism when an abnormality is detected by said majority decision mechanism.

7.   A drive control method for controlling a drive mechanism for providing a driving force to a vehicle, comprising steps of:

detecting an operating abnormality of said drive mechanism by an odd number of at least three independent detection systems;

judging a presence of an abnormality of said drive mechanism by majority decision based on detection results of detection of an operational abnormality by said odd

number of systems in said detecting step; and

stopping said driving force by said drive mechanism when it is judged that there is an abnormality in said drive mechanism at said judging step.

8. The method of claim 7, further comprising steps of:

generating a first drive signal for driving a first wheel of said vehicle and a second drive signal for driving a second wheel of said vehicle based on at least one of a state of said vehicle and a control instruction;

generating a third drive signal for judgment of abnormalities corresponding to said first drive signal and said second drive signal based on at least one of the state of said vehicle and the control instruction, and

detecting operational abnormalities of said first drive mechanism and said second drive mechanism based on matching of said first drive signal, said second drive signal, and said third drive signal at each of said independent detection systems.

9. The method of claim 8, further comprising:

generating said first drive signal and said second drive signal so that a designated difference corresponding to a rotational speed of said vehicle arises in drive forces given to said first wheel and said second wheel; and

detecting operational abnormalities in said first drive mechanism and said second drive mechanism based on coincidence and noncoincidence between said first drive signal and said second drive signal minus effects due to said difference and said third drive signal.

10. The method of claim 7, further comprising a step of:

outputting an alarm when an abnormality is detected by said judging step.

11.   A drive control apparatus for controlling a drive means for driving motion of a

vehicle, comprising:

an abnormality detecting means for detecting an operational abnormality of

5   said drive means by an odd number of at least three independent detection systems;

a majority decision means for deciding if there is an abnormality in said drive

means by majority decision based on detection results of detection of an operational

abnormality by said abnormality detecting means by said odd number of systems; and

a drive stopping means for stopping a drive action by said drive means when it

10   is judged by said majority decision means that there is an abnormality in said drive means.

12.   A drive control apparatus for controlling a first drive means for driving a first

wheel of a vehicle having a first wheel and second wheel rotating about an axis orthogonal to

a direction of progression and a second drive means for driving said second wheel,

comprising:

15   an abnormality detecting means for detecting operational abnormalities of said

first drive means and said second drive means by an odd number of at least three independent

detection systems,

a majority decision means for detecting abnormalities in said first drive means

and said second drive means by majority decision based on detection results of detection of

20   operational abnormalities by said abnormality detecting means by said odd number of

independent detection systems; and

a drive stopping means for stopping said drive action of at least one of said

first drive means and said second drive means when an abnormality is detected by said

majority decision means.

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13.   A drive control apparatus as set forth in claim 12, wherein:

said first drive means and said second drive means generate a first drive signal for driving said first wheel and a second drive signal for driving said second wheel based on the state of said vehicle or an instruction;

said drive control apparatus further has a third drive means for generating a third drive signal for judgment of abnormalities corresponding to said first drive signal and said second drive signal based on at least one of a state of said vehicle and a control instruction; and

said abnormality detecting means detects operational abnormalities of said first drive means and said second drive means based on matching of said first drive signal, said second drive signal, and said third drive signal at each of said independent systems.

14.   A drive control apparatus as set forth in claim 13, wherein:

said first drive means and said second drive means generate said first drive signal and said second drive signal so that a designated difference corresponding to a rotational speed of said vehicle arises in drive forces given to said first wheel and said second wheel; and

said abnormality detecting means detects operational abnormalities in said first drive means and said second drive means based on coincidence and noncoincidence between said first drive signal and said second drive signal minus effects due to said difference and said third drive signal.

15.   A drive control apparatus as set forth in claim 11, further having an alarm outputting means for outputting an alarm when an abnormality is detected by said majority decision means.

16.   A two-wheeled vehicle having:

a first wheel and a second wheel configured to rotate about shafts orthogonal

to a direction of progression;

a first drive means for driving said first wheel;

a second drive means for driving said second wheel;

an abnormality detecting means for detecting operational abnormalities of said

first drive means and said second drive means by an odd number of at least three independent

detection systems;

a majority decision means for detecting abnormalities in said first drive means

and said second drive means by majority decision based on detection results of detection of

operational abnormalities by said abnormality detecting means by said odd number of

detection systems; and

a drive stopping means for stopping said drive action of a wheel by a drive

means for which an abnormality is detected by said majority decision means among said first

drive means and said second drive means.